

PACT® MBR System

When Strict Environmental Compliance and Water Reuse Matter

Sustainability Matters

Siemens introduces its next generation PACT® solution - PACT® MBR. Based on four decades of validated PACT® system performance treating some of the most difficult-to-treat industrial wastewaters, PACT® MBR now combines three distinct treatment processes – biological, physio/chemical and ultrafiltration liquid-solids separation – into a single, compact, and robust treatment technology. Developed for the Oil and Gas industry, PACT® MBR achieves some of the highest COD and TOC removal efficiencies in refining and petrochemical applications, yielding best-in-class wastewater treatment performance and treated water quality, ready to be included in your plant's water recovery and reuse program.

- 40+ years of PACT® systems knowledge
- 5-year membrane warranty
- Upgradable from conventional activated sludge
- Bench scale & field pilot plant testing capabilities

Flexibility Matters

No two wastewater treatment projects are alike, which is why we design PACT® MBR systems with flexibility in mind. From retrofits to new construction, prefabricated units to large-scale, custom-designed systems, PACT® MBR systems provide versatile, cost-efficient solutions for the most difficult wastewater treatment challenges. This ensures operational stability allowing opportunity for wastewater recovery and beneficial reuse.

Custom Solutions for Unique Challenges

Whether you're facing a current effluent compliance issue or assessing strategies to meet future water quality objectives, your unique water treatment challenge demands a customized solution. By partnering with Siemens during the early concept design phase, you can expect a PACT® MBR solution that's perfectly tailored to your operations.

Brownfield Retrofit - PACT® MBR and PACT® MBR T2S Treatment

PACT® MBR systems are ideally suited for brownfield upgrades either for single-stage performance to replace aging, secondary clarifiers, or to implement True Two-stage (T2S) biological, physio/chemical and ultrafiltration liquid/solids separation state-of-the-practice treatment for strict effluent limit compliance and implementation of water reuse programs. Whatever the driver, PACT® MBR can get you there with minimum disruption to your existing treatment process, and maximum end-of-train performance.



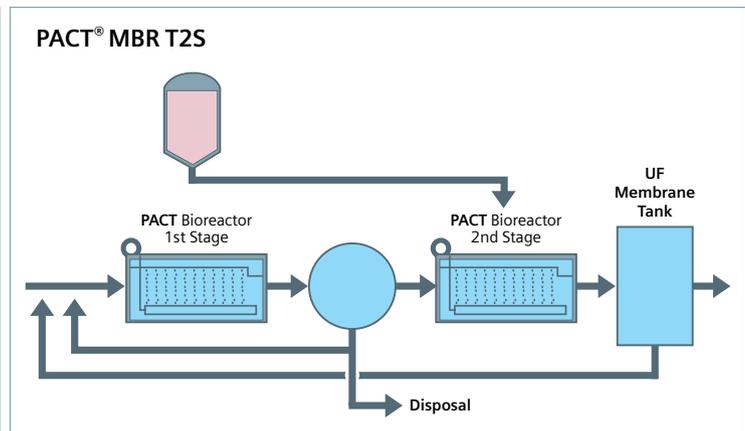
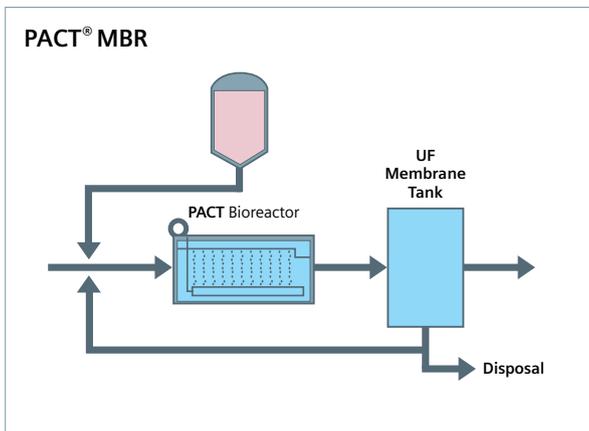
Use Cases

- Refinery and Petrochemical
- Strict Industrial Effluent Toxicity Limits
- Wastewater Recovery and Beneficial Reuse
- Limited Footprint

Price and Performance Matter

The PACT® MBR system's unique combination of biological treatment, powdered activated carbon adsorption, and ultrafiltration technologies—accomplished in a single treatment step—ensures both cost savings and exceptional performance.

Cost-saving Benefits	Performance Benefits
<ul style="list-style-type: none"> • Combines biological treatment and carbon adsorption polishing in a single treatment step, minimizing treatment footprint • When combined with on-site wet air regeneration of the carbon, waste biomass is destroyed, leaving only inert ash to dispose • Carbon dose is optimized to achieve desired effluent quality 	<ul style="list-style-type: none"> • Removes difficult-to-degrade and recalcitrant organics • Guards against upsets and shock loading • Enhances operational flexibility • Controls color and odor



As the perception of water shifts from being an abundant resource to being a valuable and often scarce commodity, your water treatment needs may also change. Backed by our 40 years of wastewater treatment experience, Siemens is ready to support your teams with exceptional value and expertise. And whether your main concern is cost or regulatory compliance, we can work with you from the onset to design the right long-term solution. From the PACT® MBR system's advantageous one-step process and lower overall costs to its range of capacity and application options, Siemens delivers **when clean water matters**. To inquire about a PACT® MBR system, email water.energy@siemens.com.

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